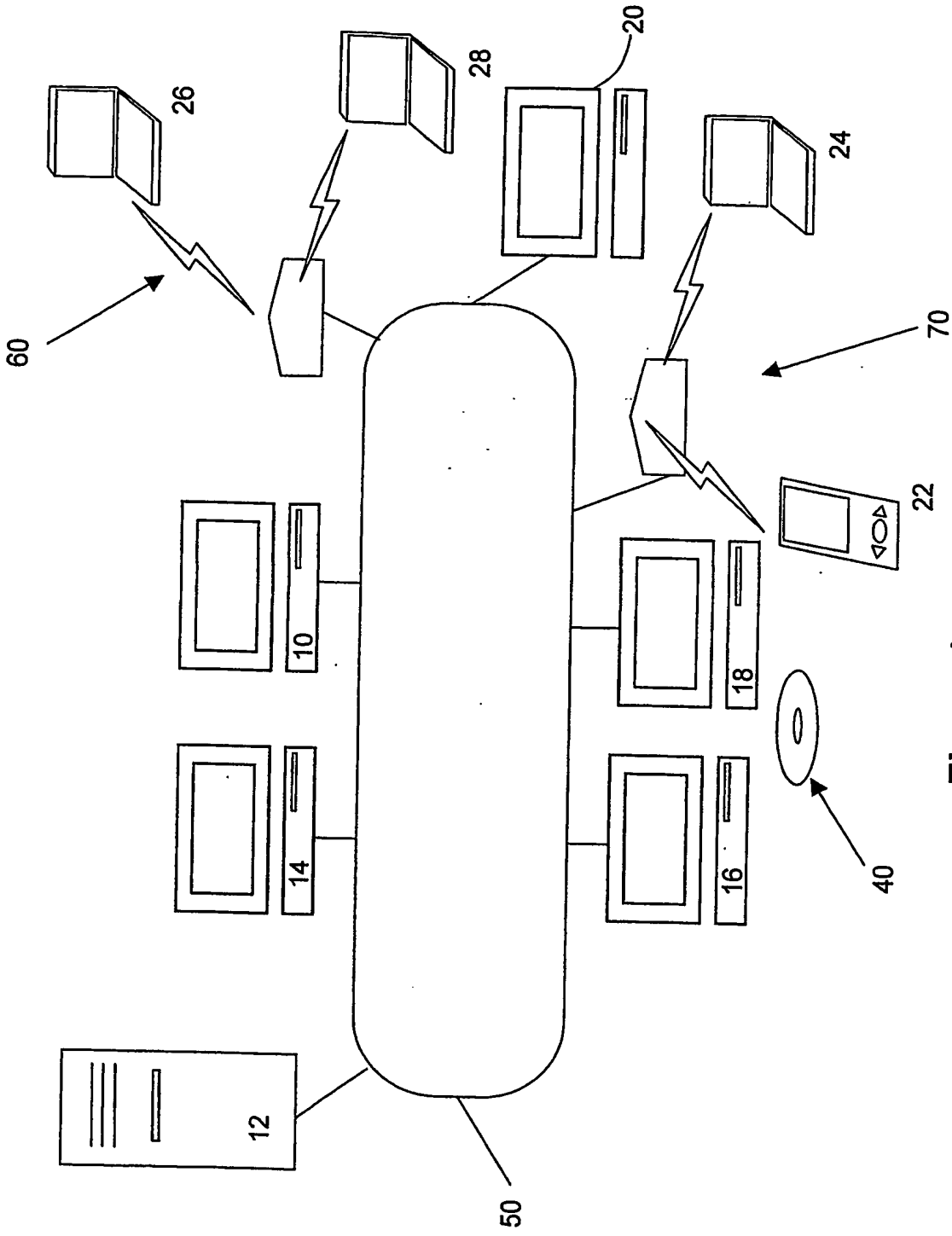

Figure 1

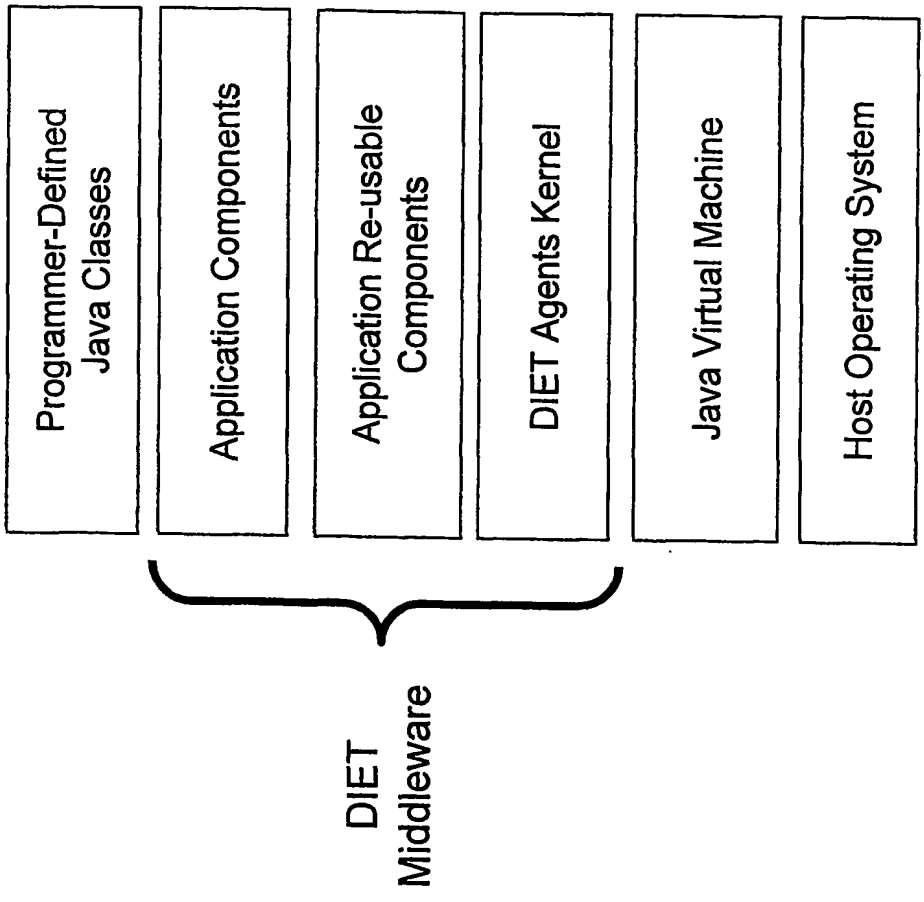
Programmer-Defined Java Classes
Application Components
Application Re-usable Components
DIET Agents Kernel
Java Virtual Machine
Host Operating System
DIET Middleware

Figure 2

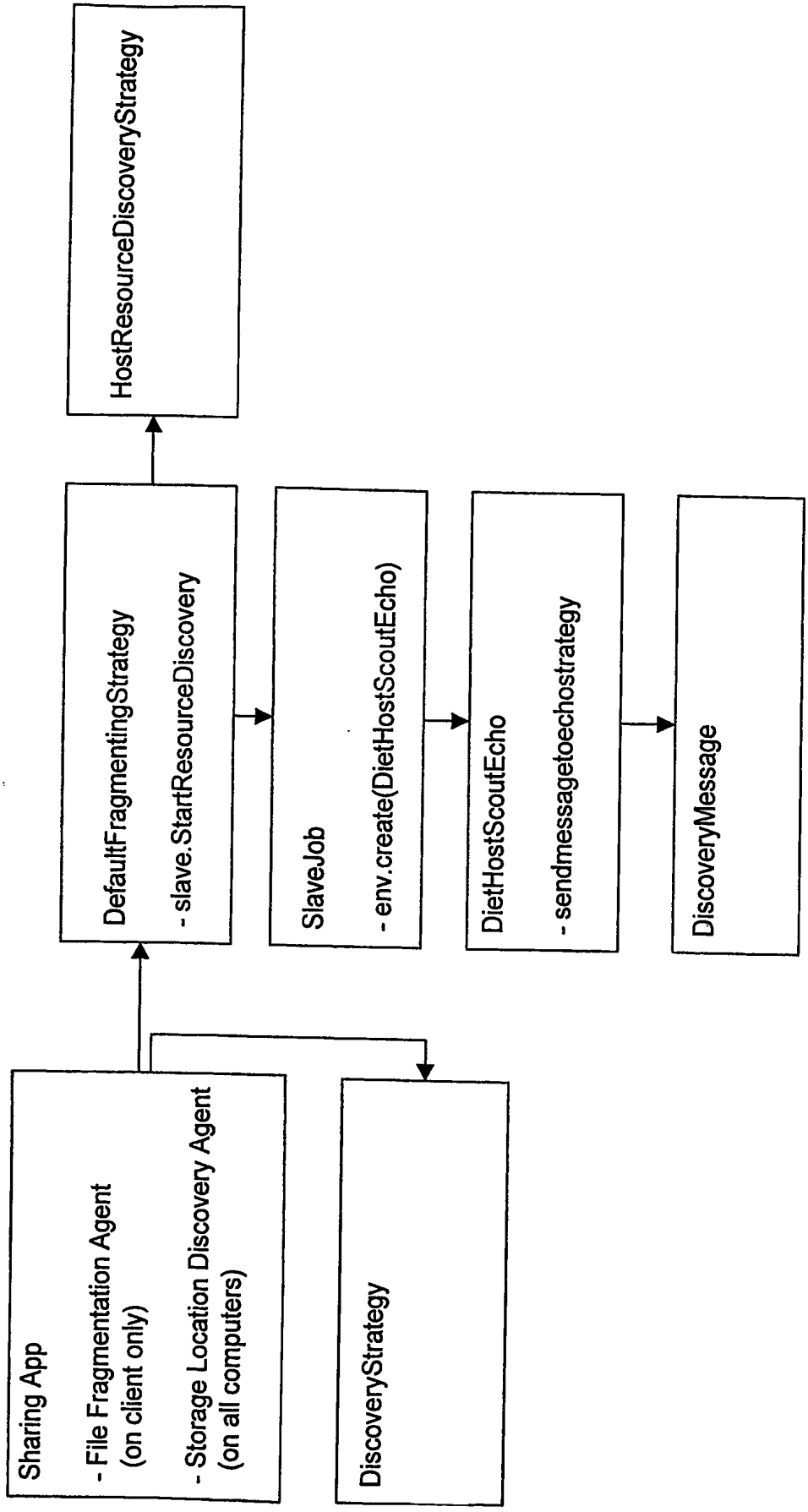
HostResourceDiscoveryStrategy
DefaultFragmentingStrategy
- slave.StartResourceDiscovery
SlaveJob
- env.create(DietHostScoutEcho)
DietHostScoutEcho
- sendmessagetoechostrategy
DiscoveryMessage
Sharing App
- File Fragmentation Agent (on client only)
- Storage Location Discovery Agent (on all computers)
DiscoveryStrategy

Figure 3

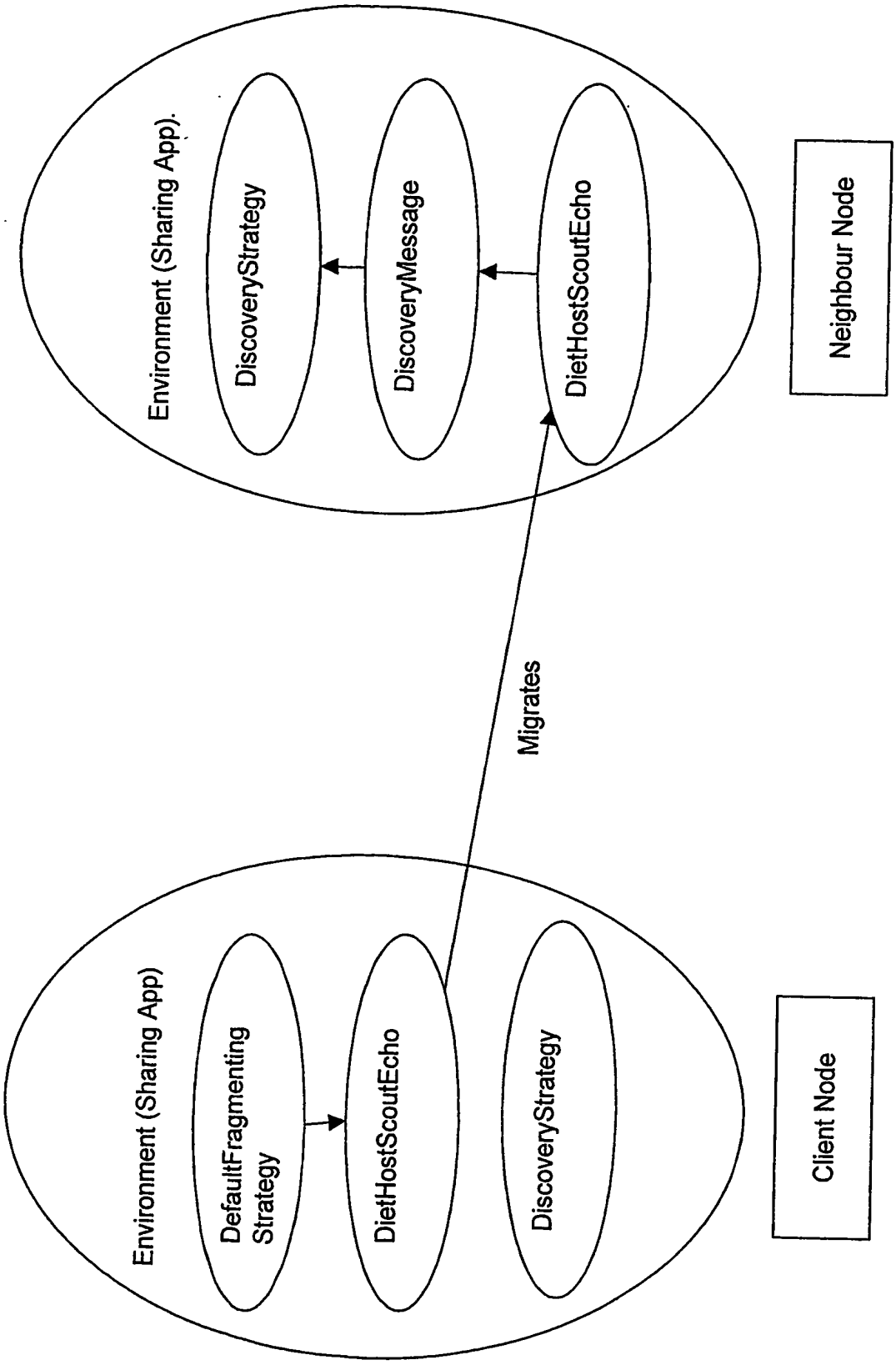
Environment (Sharing App).
DiscoveryStrategy
DiscoveryMessage
DietHostScoutEcho
Neighbour Node
Migrates
Environment (Sharing App)
DefaultFragmenting Strategy
DietHostScoutEcho
DiscoveryStrategy
Client Node

Figure 4

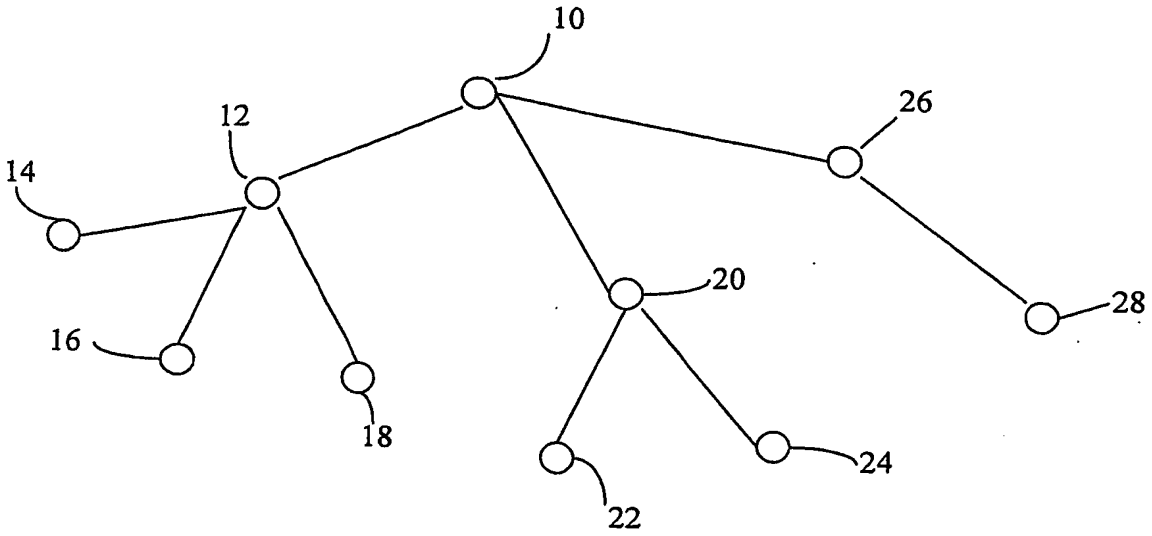

Figure 5

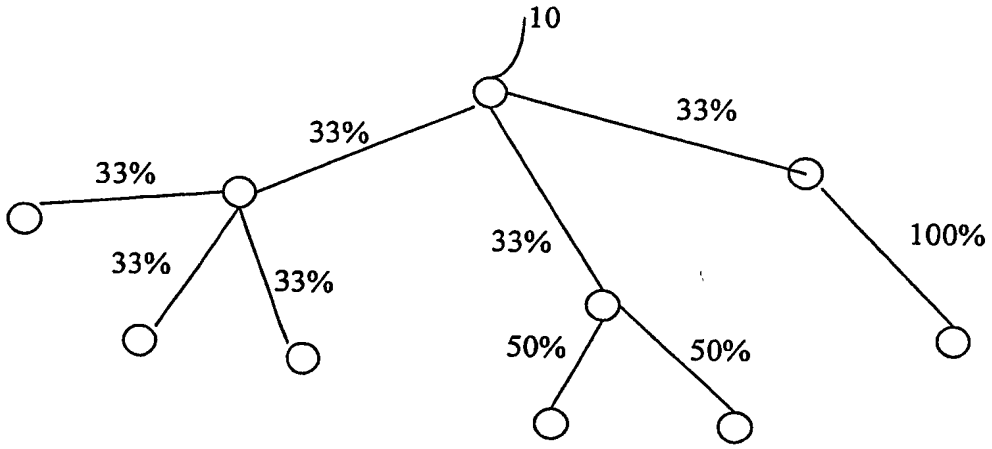

Figure 6

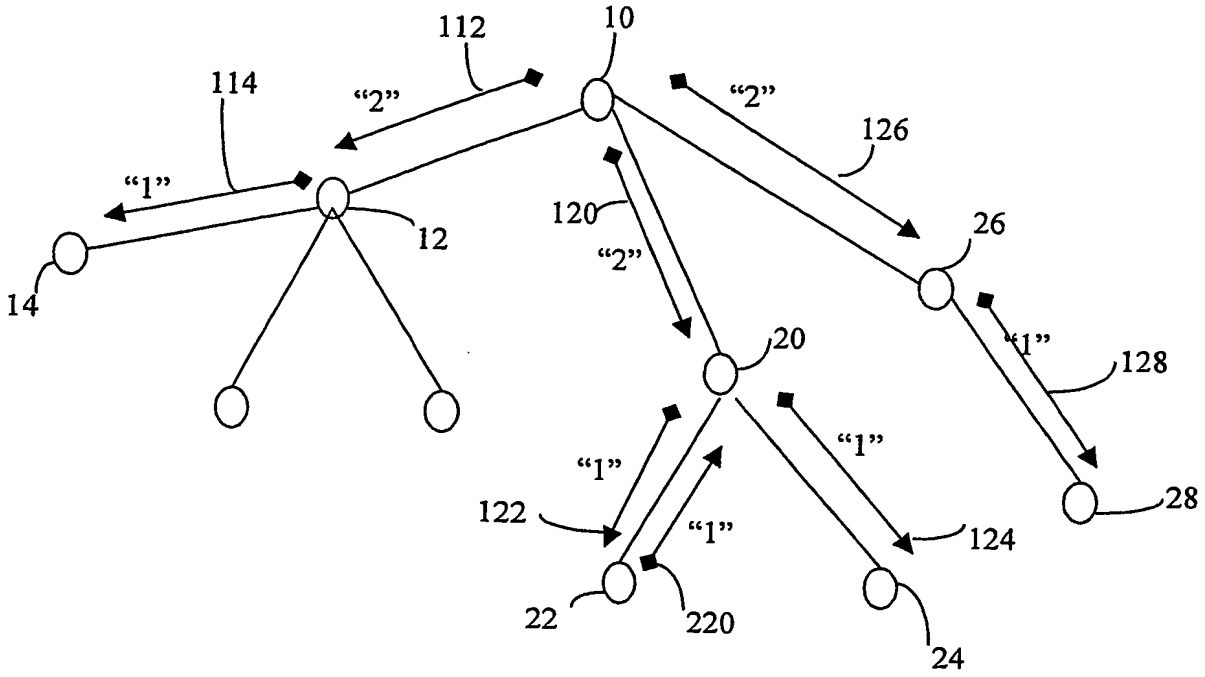

Figure 7

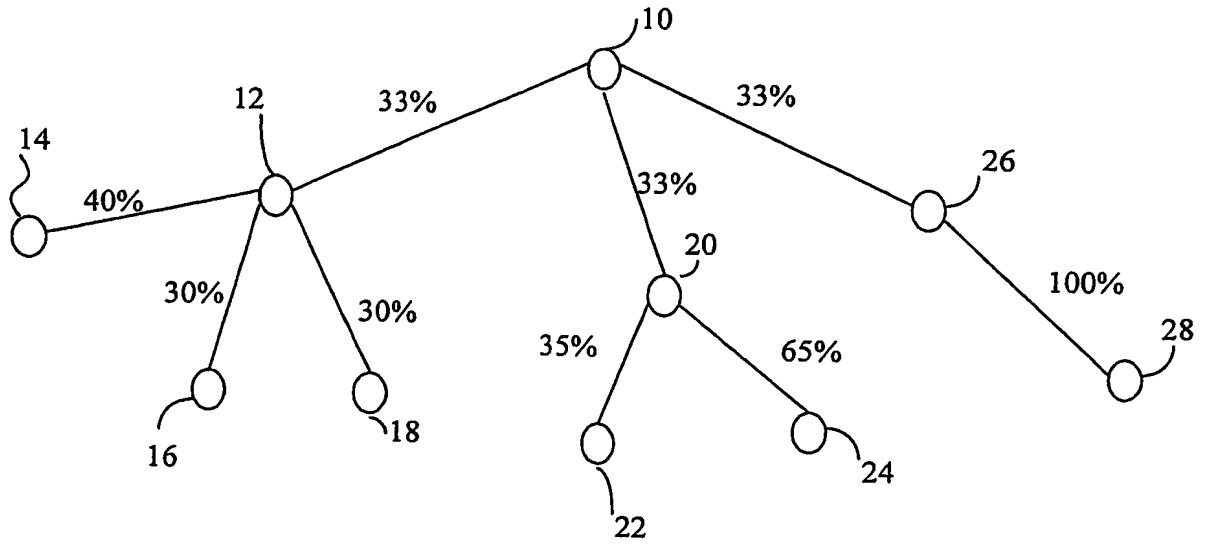

Figure 8

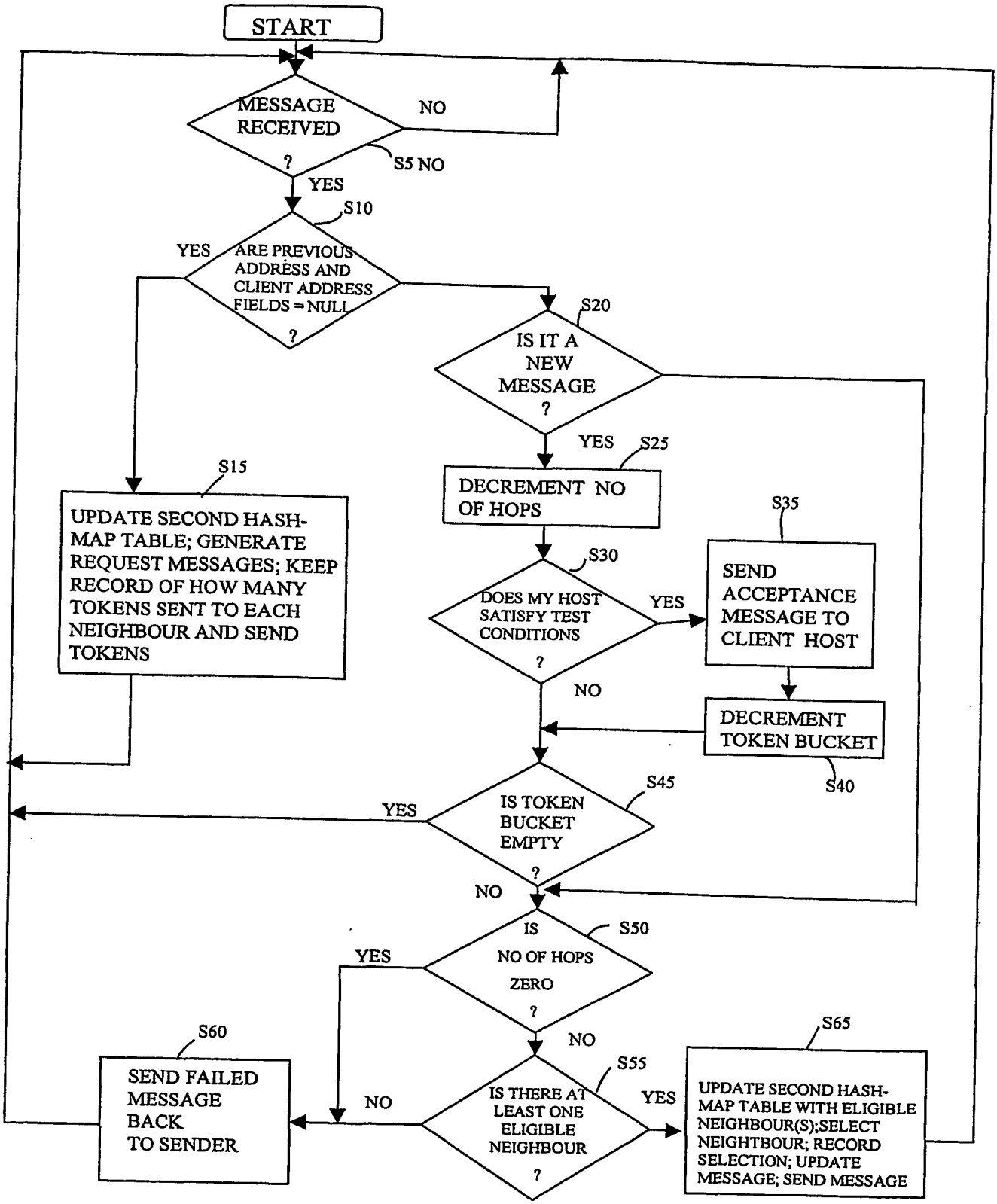
START
MESSAGE RECEIVED ?
NO
S5 NO
YES
S10
ARE PREVIOUS ADDRESS AND CLIENT ADDRESS FIELDS = NULL ?
YES
S20
IS IT A NEW MESSAGE ?
YES
S25
DECREMENT NO OF HOPS
S15
UPDATE SECOND HASH-MAP TABLE; GENERATE REQUEST MESSAGES; KEEP RECORD OF HOW MANY TOKENS SENT TO EACH NEIGHBOUR AND SEND TOKENS
S30
DOES MY HOST SATISFY TEST CONDITIONS ?
YES
S35
SEND ACCEPTANCE MESSAGE TO CLIENT HOST
NO
DECREMENT TOKEN BUCKET
S40
S45
IS TOKEN BUCKET EMPTY ?
YES
NO
IS NO OF HOPS ZERO ?
S50
YES
NO
S60
SEND FAILED MESSAGE BACK TO SENDER
NO
S55
IS THERE AT LEAST ONE ELIGIBLE NEIGHBOUR ?
YES
S65
UPDATE SECOND HASH-MAP TABLE WITH ELIGIBLE NEIGHBOUR(S);SELECT NEIGHTBOUR; RECORD SELECTION; UPDATE MESSAGE; SEND MESSAGE

Figure 9

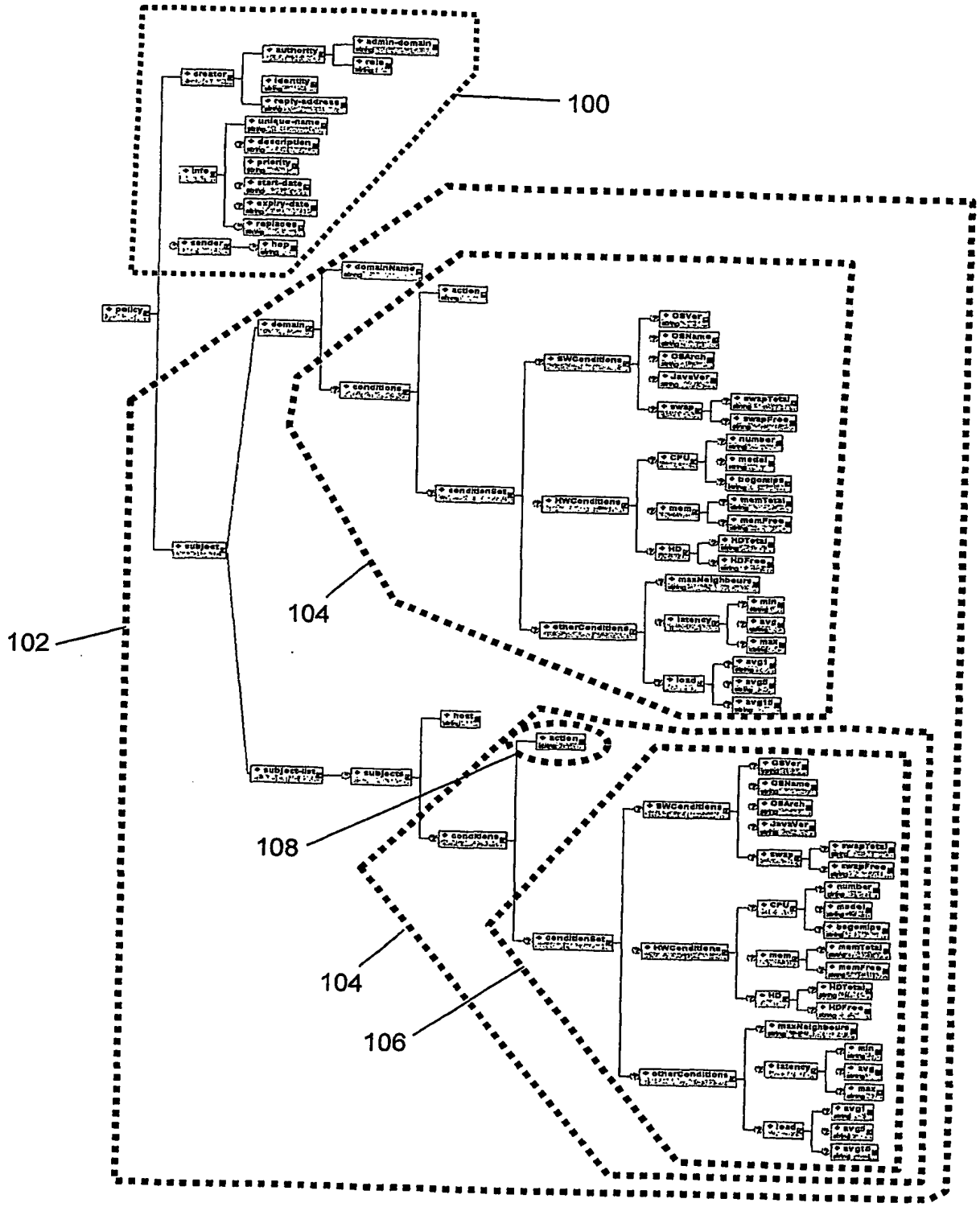

Figure 10

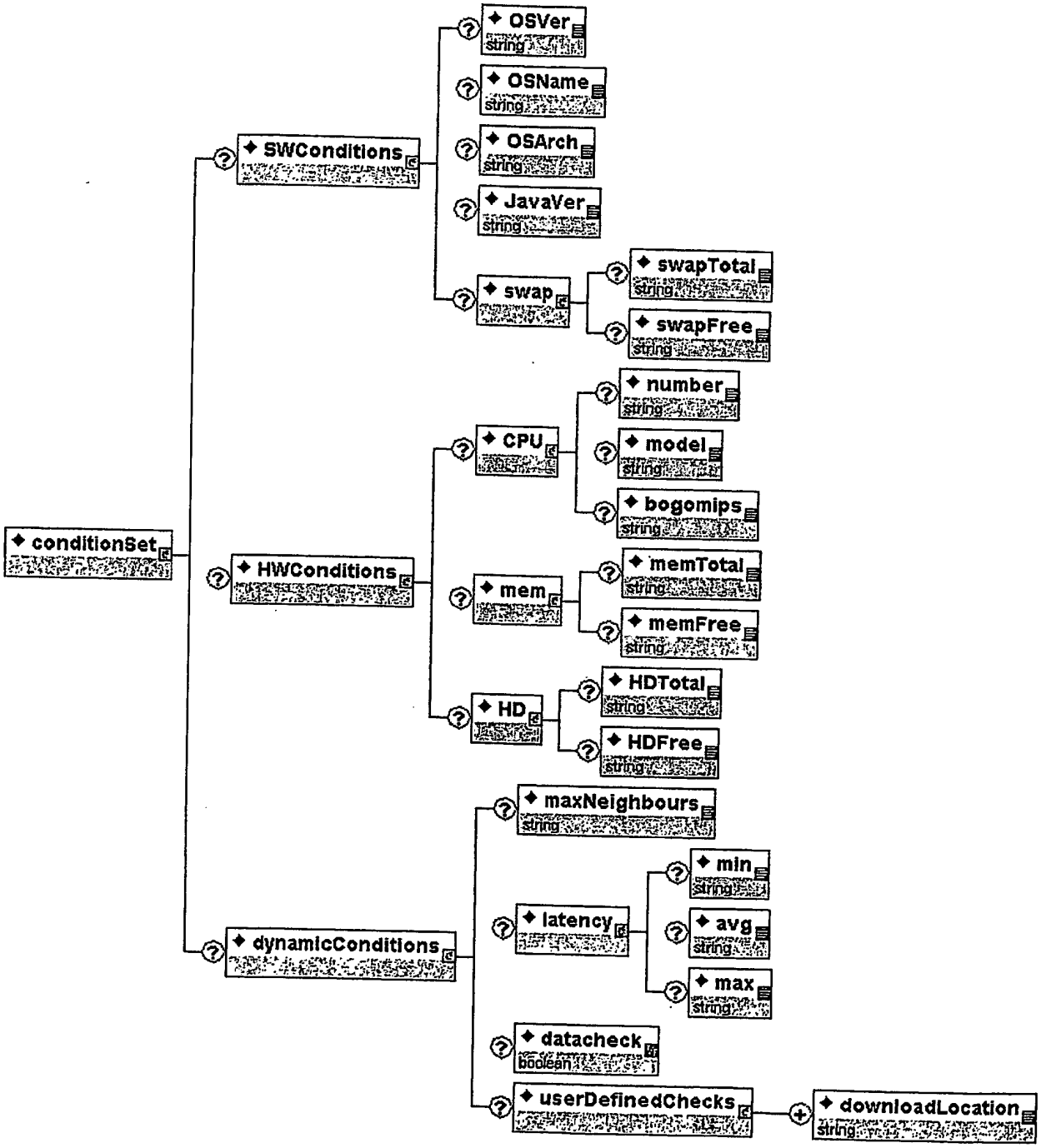
conditionSet
SWConditions
OSVer
string
OSName
string
OSArch
string
JavaVer
string
swap
swapTotal
string
swapFree
string
HWConditions
CPU
number
string
model
string
bogomips
string
mem
memTotal
string
memFree
string
HD
HDTotal
string
HDFree
string
dynamicConditions
maxNeighbours
string
latency
min
string
avg
string
max
string
datacheck
boolean
userDefinedChecks
downloadLocation
string

Figure 11

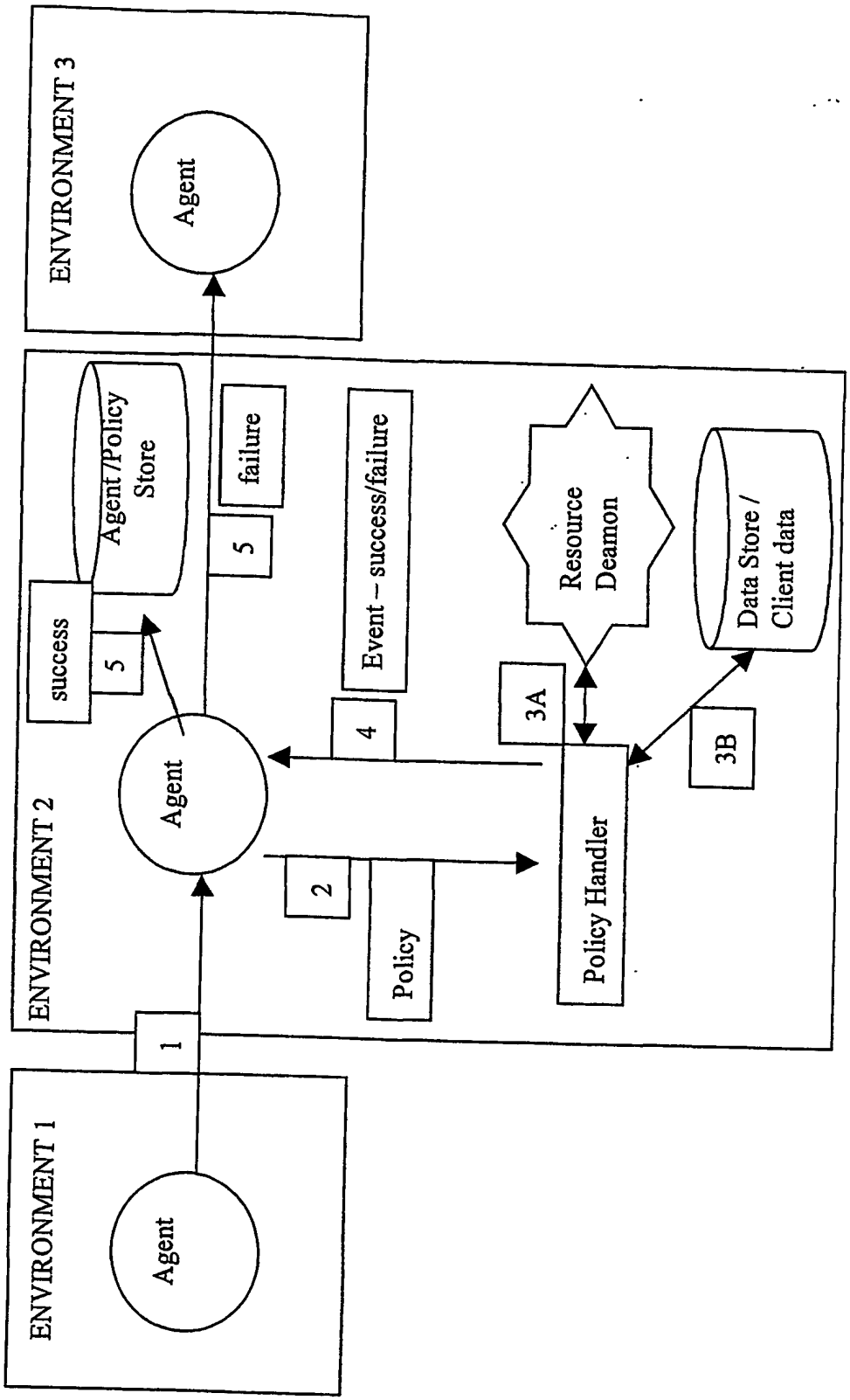
ENVIRONMENT 3
Agent
ENVIRONMENT 2
Agent /Policy Store
failure
5
5
success
Event – success/failure
Resource Deamon
Data Store / Client data
4
3A
3B
Agent
2
Policy
Policy Handler
1
ENVIRONMENT 1
Agent

Figure 12

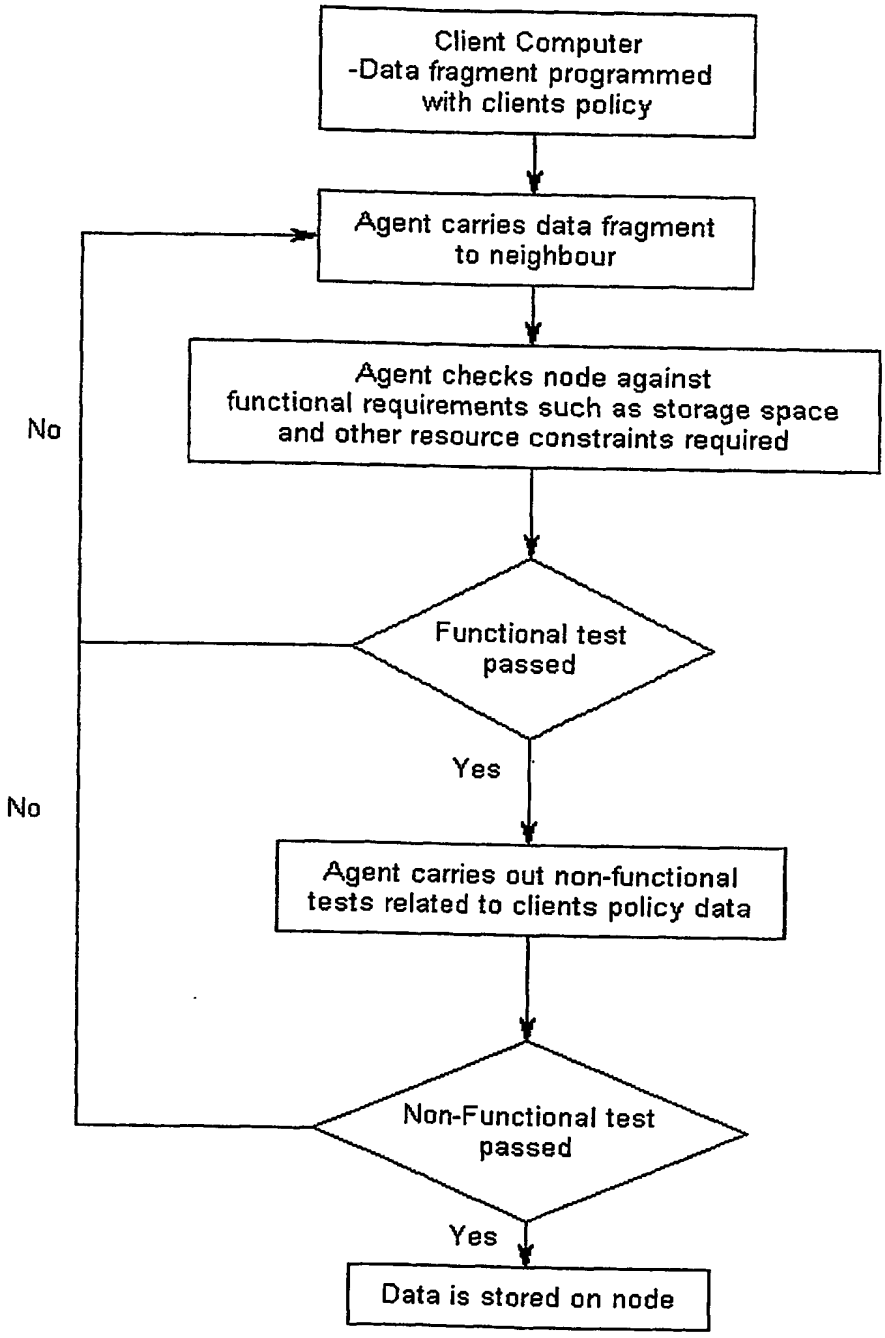
Client Computer
-Data fragment programmed with clients policy
Agent carries data fragment to neighbour
Agent checks node against functional requirements such as storage space and other resource constraints required
No
Functional test passed
Yes
No
Agent carries out non-functional tests related to clients policy data
Non-Functional test passed
Yes
Data is stored on node

Figure 13